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ABSTRACT

Education is the main resource for obtaining employment for young people entering the labor market. European countries differ widely in the institutional structure of their education and training systems and labor markets in that different resources are provided to school-leavers entering into working life in different countries and these new job-seekers face varying institutional and economic contexts in labor markets. The crucial role of educational qualifications for successful labor market entry in 12 European countries in the mid-1990s was analyzed, drawing on the 1992-97 European Community Labour Force Survey. The goal of the study was to gauge the extent to which cross-national differences in labor market outcomes for market entrants can be related to institutional differences between countries in qualification profiles of school-leavers and differences in the relationship between qualifications and early labor market outcomes. Unemployment and occupational allocation as two major dimensions of early labor market outcomes were analyzed, applying multilevel modeling to a database of repeated comparative cross-sectional surveys. The results indicate that institutional differences in both education and training systems and labor markets play a major role in explaining cross-national differences in the experiences of young people entering the labor market in European countries, even after accounting for the effects of variation in

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economic conditions and other unmeasured heterogeneity between countries and types of qualifications. (Contains 79 references.) (Author/KC)

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Education and Labour Market Entry across Europe: The Impact of Institutional Arrangements in Training Systems and Labour Markets

Arbeitspapiere

Working Papers

Markus Gangl

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Markus Gangl is research fellow at the Mannheim Centre for European Social Research (MZES). He is currently involved in the European research network "A Comparative Analysis of Transitions from Education to Work in Europe" (CATEWE), funded under the TSER programme of the European Commission. The working paper resulted out of that project.

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Abstract

Education is the main resource of young people entering the labour market for securing employment, in competing for adequate employment contracts and to fulfill their occupational aspirations. As European countries differ widely in the institutional structure of their education and training systems and labour markets, different resources are provided to school-leavers entering into working life in different countries, who additionally face varying institutional and economic contexts in labour markets. The paper empirically addresses the crucial role of educational qualifications for successful labour market entry in twelve European countries in the mid-1990s, drawing on the 1992-1997 European Community Labour Force Survey. The main aim of the analyses is to gauge the extent to which cross-national differences in labour market outcomes for market entrants can be related to institutional differences between countries in terms of differences in qualification profiles of school leavers and differences in terms of the relationship between qualifications and early labour market outcomes. The analyses cover unemployment and occupational allocation as two major dimensions of early labour market outcomes, applying multilevel modelling to a database of repeated comparative cross-sectional surveys. The results indicate that institutional differences in both education and training systems and labour markets play a major role in explaining cross-national differences in the experiences of young people entering the labour market in EU countries, even allowing for the effects of variation in economic conditions and other unmeasured heterogeneity between countries and types of qualifications.

1 Entering the Labour Market in Europe: A Cross-National Perspective

It is widely recognized by now that transition processes from education into working life vary markedly across countries. The extent to which young people entering the labour market are subject to spells of unemployment, employment in specific entry-level occupations and industries, or prolonged periods of precarious employment situations differs markedly among European Union member states (OECD 1996, 1998). In countries like France, Greece, Italy, or Spain, youth unemployment is a major problem with unemployment rates among recent school leavers amounting to more than 30% or even 40%, sometimes accompanied by massive state intervention to reduce the extent of the problem. Other countries like the United Kingdom or Ireland see less of a unemployment problem, but concerns are about low levels of training, allocation of young people to lower-level jobs and excessive job hopping and mobility in early years in the labour force. In yet another set of countries, notably Austria, Denmark or Germany, the integration of young people into the labour market appears as much less problematic. There, youth unemployment rates are generally very much in line with those among more experienced workers and concerns about allocation of market entrants are relatively weak.

There is, however, abundant evidence that these cross-national differences in labour force outcomes are much reduced in the prime-age labour force (Kerckhoff, 1995; Layard et al., 1991). One implication of this might be that cross-national differences at the outset of employment careers reflect the operation of distinct institutional arrangements of labour market entry in Europe, providing alternative mechanisms for integrating young people into the labour force (Hannan et al., 1999; Müller and Shavit, 1998; Shavit and Müller, 2000, forthcoming; Kerckhoff, 1995, forthcoming; Allmendinger, 1989). The institutional structure of education and training systems has since long been considered one likely candidate for explaining cross-national differences at labour market entry in general, and the remarkably better performance of countries operating (dual) systems of occupationally-specific training at the secondary level like Austria, Denmark, the Netherlands or Germany in terms of relatively low levels of both youth unemployment and secondary sector employment among youth (Hannan et al., 1999; Müller and Shavit, 1998; OECD 1998; Allmendinger, 1989). The main argument in this body of literature is to relate transition patterns and outcomes to the structured integration (Garonna and Ryan, 1989) occurring through the provision of transferable occupational skills and extensive work experience with a specific employer in the context of dual training system arrangements, mostly apprenticeships, enabling effective competition of market entrants for jobs in occupationally segmented labour markets (Marsden, 1986, 1990; Marsden and Ryan, 1995). In countries lacking such systems of training provision, in contrast, early labour market careers are said to exhibit more volatility, unemployment and job mobility, reflecting more extensive periods of initial job search and the acquisition of work experience through mobility and job hopping (Kerckhoff, 1993, 1995; Rosenbaum et al., 1990; Scherer, 1999).

There are various counterarguments challenging the validity of the sketched and simplified institutional account, of course. A first one might consist of simply acknowledging the more favourable

macroeconomic conditions in the set of dual system countries, which might already be sufficient to explain the better prospects of market entrants there. In a similar vein, cross-national differences in industrial or occupational structure might be pointed out and related to differences in industrial or occupational allocation of people leaving education and training. Alternatively, one might note that education and training systems are internally heterogeneous in the sense that the characterization of a class of "dual system"-type systems conceals that any such differentiation takes the (important) part of upper secondary level training to represent the system as a whole (Hannan et al., 1999). Hence, even if correct, the above stylized argument might in fact only be applicable as a partial explanation of the observed cross-national differences, as long as additional assumptions relating the structure of training systems at the upper secondary level to the institutional structure of and individual behaviour in other parts of the system are not explicitly introduced. Finally, the extent to which the above argument captures the empirically relevant institutional variation among European Union member countries might be questioned itself, as much of the current institutional literature is developed from a decidedly Northern European perspective, which hardly incorporates Southern European patterns into the systematic argument.

To address the nature and sources of cross-national differences at entering the labour market in a more precise way, the paper provides a multilevel analysis of unemployment and occupational allocation among market entrants in twelve European countries, drawing on the 1992-1997 European Community Labour Force Survey. At the individual level, the main focus of the analyses will be on the role of education for successful labour market entry in different institutional and economic context conditions, while a set of explicit macrolevel measures of the latter are simultaneously included in the analysis. Hence, the relative importance of several alternative explanations for the observed cross-national differences can be assessed empirically, relating different patterns of labour market entry to the structure of qualificational resources of market entrants, institutional differences in the association between education and labour market attainment or varying economic context conditions. By thus explicitly addressing the micro- and macrolevel aspects of institutional effects on the linkage between education and initial labour force outcomes, the paper is able to move well beyond earlier, purely macrolevel accounts (e.g. OECD, 1998; van der Velden/Wolbers, 2000; but cf. also Brauns et al., 1998, 1999). The following section discusses the theoretical background, while Section 3 describes the database and research design applied in the analyses. The empirical results are discussed in two sections, with Section 4 providing some descriptive information and Section 5 containing the multivariate analyses. The results are summarized and evaluated in the concluding section.

2 Education, Labour Market Entry and the Role of Context Factors

2.1 The Role of Education for Successful Entry into the Labour Market

Education is the main resource of young people entering the labour market for securing employment, in competing for adequate employment contracts and to fulfill their occupational aspirations (Müller and Shavit, 1998; Hannan et al., 1999). Education provides both productive capacities to individuals and signals of these to potential employers (Breen et al., 1995; Becker, 1993; Spence, 1973, 1981; Bills, 1988; Hunter and McKenzie Leiper, 1993; Spilerman and Lunde, 1991; Polacheck and Siebert, 1993; Ashton and Sung, 1992) – hence, attained qualifications are a main asset in worker competition for jobs available in the labour market. Of course, education is not the only resource of workers in job search: work experience, past employment history, networks and contacts, or geographical mobility might all be reasonably and convincingly related to individuals' labour market success. In addition, social differentiation according to gender, ethnicity or class background might be expected to operate, both due to their association with the availability of market resources and more fundamental persisting social inequalities. There are, however, at least two reasons which encourage a systematic focus on the role of education in analysing the transition from education to work. First of all, most of these factors like work experience, employment history or professional contacts are zero or very limited only among those entering the labour force almost by definition. That is, to the extent that labour market allocation depends on factors other than educational qualifications, labour market entrants are among the least competitive job seekers as they necessarily lack these. In contrast, young people entering the labour market have invested in their qualifications, at least in part in order to achieve adequate employment prospects at later life stages. At entering the market, this training process is completed (if temporarily only) as sufficiently satisfactory qualifications have been obtained and individuals aim to extract labour market returns to these. To the extent that labour market processes depend on the qualification attained, early labour force experiences are an immediate consequence of educational decisions taken earlier, and thus intimately linked together and potentially both mutually reinforcing and behaviourally interdependent. To sum up the arguments, assessing early labour force outcomes provides an estimate of short-term returns (in biographical terms) to educational investments which young people can expect on the labour market.

Such labour market returns to educational investments are conceptually most easily understood in the framework of hiring and market allocation models in the spirit of Thurow (1975) or Rosen (1972; cf. also the related sociological literature on labour market matching following Sørensen and Kalleberg, 1981). To simplify, it is assumed in these and related models that employers' readiness to hire an individual into a specific employment position depends on the expected training costs of the individual should it be employed at that position. That is, the smaller the differential between expected current individual productivity and required productivity at the position in question, the larger the likelihood of a hire. A number of aspects of educational qualifications are obviously related to and providing signals about different components of productivity and, in turn, expected training costs. Regularly, the current literature identifies the level and the vocational specificity (or occupational specialization) of

qualifications as two main dimensions of relevance (cf. the contributions in Shavit and Müller, 1998; Braun and Müller, 1998; Brauns and Steinmann, 1999). Both the level of qualifications as an index of general ability and the vocational specialization of training received as an indicator of transferable occupationally-specific skills can be expected to reduce incurred training costs, and thus, to increase the probability of access to employment, with the effect being mostly confined to the sector of specialization in the latter case. But the discussion of different types of national institutional systems of training provision suggests this list not to be exhaustive of institutional variation relevant to cross-national research (cf. the review in Hannan et al., 1999). More specifically, in those European countries regularly credited the most successful ones in terms of youth integration into the labour force, it is fairly common to provide vocational training in an environment combining school- and work-based training, notably in the form of apprenticeship systems. This type of training adds a third dimension of importance to the picture which might be phrased as provision of work experience and direct employer involvement in training provision (Hannan et al., 1999). With respect to expected training costs, such training provides at least two additional advantages to market entrants: work experience and firm-specific training, which can both be expected to reduce the expected productivity differential, though the latter should apply to continued employment with the training firm only. In sum, these arguments amount to the following three hypotheses on the relationship between educational qualifications and unemployment risks of market entrants, which is for simplicity conceptualized as the probability of non-hiring: (HYP1) *Unemployment is negatively associated with the level of education*; (HYP2) at a given level of education, *unemployment risks are lowered by attaining qualifications which provide vocational specialization*; and (HYP3) at a given level of education, *unemployment among market entrants is lowered by completing an apprenticeship or training in a similar type of dual system arrangement.*

The reasoning easily extends to expectations about the relationship between qualifications and occupational attainment. Following Thurow's model again, one might imagine a ranking of available jobs according to general attractivity, with remuneration and required productivity being relatively closely linked. If individuals strive to attain highly rewarded employment positions, they will accept employment at the most attractive employment position available. As the availability of positions is assumed to depend on expected training costs, the choice set is increasingly restricted at lower qualificational levels. From this it follows that (HYP4) *with respect to occupational allocation along the reward hierarchy, it should only be the level of education which is of importance, rather than vocational specificity of qualifications in itself.* The vocational specialization of qualifications would, in contrast, be expected to affect the probability of employment within the sector of specialization, as training costs are by definition only reduced in that specific sector. Given data limitations with respect to the level of detail in the measurement of qualifications, it is not possible to pursue this last issue in the empirical analyses to follow, however.

2.2 The Importance of Institutional Contexts

While the above reasoning attempted to provide a brief outline of the general mechanisms linking education and market entrants' labour force outcomes, a main strength of comparative research is to be able to address the impact of fundamentally varying context conditions between countries on that nexus. Of primary relevance are the institutional structure of education and training systems on the one hand and labour markets on the other, where crucial parameters affecting individual decisions and their aggregate outcomes in the transition process from education to work are set. European countries, which are considered here, differ markedly in both respects, so that wide cross-national differences in transition outcomes might be expected.

The institutional structure of education and training systems is at the center of many explanatory frameworks addressing cross-national variation in the nature of early labour market careers, although specific arguments vary widely (cf. Hannan et al., 1999; Müller and Shavit, 1998, 2000; Allmendinger, 1989; Kerckhoff, 1995, forthcoming). It is certainly true that institutional arrangements in education systems are of fundamental importance to transition outcomes as they channel, constrain or enable sufficient individual acquisition of qualifications. If one views the nature of qualifications individuals have achieved by entering the labour market as the outcome of a basically rational decision on the part of young people and their families (Becker, 1993; Breen and Goldthorpe, 1997; Jonsson, 1999; Borghans and Groot, 1999), then it is self-evident that the institutional structure of training systems can be seen as defining the educational choice set and the properties of the discrete qualificational alternatives provided, which might be assessed in terms of expected costs and benefits. Phrased in this simple framework, institutional variation in education and training systems might consist of both differences in the choice sets offered and the features of specific qualifications. To the extent that such variation occurs, one would expect to observe variation in the educational distribution of market entrants, which is indeed widely documented for European countries (e.g. Müller and Wolbers, 1999). A main result of these studies is to point out wide cross-national variation in the availability of apprenticeships or other dual systems of training. In countries like Germany, Austria or Denmark such training appears to provide an attractive initial qualification to young people, while such training environments have declined - for numerous reasons (e.g. Marsden and Ryan, 1995) - in importance in the Netherlands or, much earlier, Britain, and are only recently revigorated to some degree in France or by the Modern Apprenticeship Programme in the United Kingdom. On the other hand, European countries differ markedly in the extent to which youth cohorts attain upper secondary or tertiary level qualifications, with e.g. Austria and Italy exhibiting very low and hardly increasing proportions of tertiary level leavers or the proportions of young people leaving the educational system with essentially compulsory schooling only being still relatively high in Southern Europe, but also in Britain (OECD 1997; Müller and Wolbers, 1999; Müller et al., 1997). Given that different educational systems thus provide market entrants with very different sets of qualificational resources, cross-national differences in initial labour market outcomes and the nature of the transition process itself are to be expected. More specifically, the total effect of education and training systems on the transition from school-to-work are restricted to compositional differences in market entrants' stock of qualifications at leaving the training system. Consequently, it is hypothesized that (HYP5) *cross-national differences in early*

labour market outcomes arise from cross-national variation in training systems' effectiveness in providing young people with qualificational resources valued in the labour market. Those countries especially successful in avoiding high rates of youth unemployment and high rates of inadequate employment among market entrants to a larger extent enable young people to acquire the necessary qualifications for such sucessful market entry. That is, conforming to the microlevel hypotheses set out above, it is expected that those educational systems providing advantageous – i.e., tertiary level, vocationally specific or apprenticeship – qualifications to a larger share of a cohort of market entrants lead to more favourable patterns of youth integration into the market.

European countries also differ, however, in the institutional structure of labour markets young people have to face at market entry, and this might equally well be expected to impact on the nature of education-to-work transitions in the different countries. Of course, there are a multitude of angles from which the issue of labour market institutions might be addressed, focusing e.g. on the nature of formal employment regulation, union bargaining power and the nature of wage bargaining systems, the nature of labour market segmentation or the extent of active labour market programmes aimed at integrating young people into the work force, all of which may easily be related to expectations about transition outcomes (e.g. van der Velden and Wolbers, 2000b). Attempting to identify the main institutional features of relevance from a small sample of countries is, however, plagued by the fact of institutional interdependencies in the above and other characteristics of labour markets, implying both a theoretical indeterminacy of results and patterns of severe multicollinearities in the empirical data. As the focus of the paper is on the role of education and educational systems, the potential additional explanatory power of institutional arrangements in labour markets is assessed in more explorative ways in the following. Building on earlier empirical analyses (Gangl, 2000a), three country clusters are distinguished in the set of twelve EU member countries, representing both distinct configurations of institutional arrangements and empirical patterns of labour market entry. More specifically, I distinguish (a) Austria, Denmark, Germany and the Netherlands as the group of Northern European countries where strong occupational labour markets are regularly claimed to operate (Müller and Shavit, 1998; Eyraud et al., 1990; Marsden, 1990), (b) the Southern European countries, including Greece, Italy, and Portugal, regularly claimed to exhibit rigid labour market context, both in terms of formal employment protection and career mobility patterns (Grubb and Wells, 1993; OECD 1999; Bernardi et al., 1999; Jobert, 1997), while treating (c) the residual set of countries, including Britain, Ireland, France, Belgium, but also Spain, as a final group of European countries, which (to varying degrees) lack either institutional feature of labour markets. Following standard practice in the literature, the labels of OLM systems, Southern European systems, and ILM systems will be used as shorthands for these groups, respectively.[1] In more theoretical terms, this distinction alludes to different institutional solutions (even if implicit) of reducing the productivity differential for market entrants, which may

[1] I explicitly note the potentially misleading use of these labels as a singular feature is used to characterize types of systems. The intended use here is rather one of relatively similar institutional arrangements shaping transition processes, consisting of fairly distinct and internally relatively coherent combinations of institutional features in labour markets. Such institutional interdependencies might also include relations between the structure of training systems and the structure of labour markets (e.g. Maurice and Sellier, 1986; Marsden,

heuristically be contrasted along the two axes of skill vs. wage/contract flexibility in labour markets. One strategy to increase young people's competitiveness on the labour market is early skill specialization aimed at improving initial relative productivity of market entrants as compared to that of adult workers. This strategy is chosen in the (ideal-typical) occupationalized systems of the first group of countries, which combine strong vocationally-oriented training systems with both fairly regulated and occupational labour markets (cf. the lower right hand panel in Table 1). Alternatively, youth labour market integration might be achieved by flexibilizing labour usage and employment contracts in order to allow for a closer relation between market entrants' current productivity and job rewards in terms of pay and other contract conditions. This ideal-typical second strategy is operated in the other North European systems in the upper left hand cell of Table 1, where labour market regulation is weak in general (as in the UK or Ireland) or deliberately flexibilized by introducing wage subsidies, work experience programmes and flexible forms of contracts among young people (as in France, Belgium or Spain). A second component of youth labour market integration in this context might consist of disproportionally allocating young people into the secondary sector work force and subsequent promotion from this pool of workers afterwards (Marsden, 1990). In some sense, either attempt of fostering labour market integration of young people appears to be absent in the remaining set of Southern European countries assembled in the lower left hand cell of Table 1. In consequence, one might expect that (HYP6) *unemployment risks among market entrants should be markedly more pronounced in the latter systems as compared to both OLM and ILM systems*, while (HYP7) *the main contrast between OLM and Southern systems as compared to ILM systems should be a more favourable occupational allocation at market entry.*

Table 1 Types of Institutional Arrangements in Labour Markets

Wage/Contract Flexibility	Skill Flexibility: high	Skill Flexibility: low
high	United Kingdom, Ireland Spain, France, Belgium	the Netherlands, Denmark
low	Greece, Italy, Portugal	Austria, Germany

Source: based on empirical results in Gangl (2000a)

1990; Müller and Shavit, 1998; Hannan et al., 1999), which render the analytical separation between the two somewhat less unequivocal than discussed above.

2.3 Economic Context and Labour Market Entry

Labour markets are not continuously in stable equilibrium, but rather constantly adapting and adjusting to various sources of change. These are both short-term forces like labour market and employment reactions to business-cycle fluctuations in product markets (e.g. Blossfeld, 1986; Storer, 1994; Bowlus, 1995), but also more long-term changes in the skill structure of employment or the qualificational structure of labour supply (Müller and Wolbers, 1999; Brauns, 1998; Müller et al., 1997; Dronkers, 1999; Penn et al., 1994; Gregg and Manning, 1997; Evans, 1999; Ashton et al., 1990), which have to be accustomed by and change the labour market over time. Hence, cross-national variation in labour market outcomes always reflects effects of institutional differences between countries as well as country differences with respect to general economic conditions or other national labour market factors like a particular industrial or occupational structure. In order to properly identify genuine institutional effects in empirical analysis, one has to allow for any such effects of the state of and changing economic contexts in the labour market. It is easily imagined that general economic conditions affect market entrants' labour force outcomes, so that cross-national variation in transition outcomes reflect varying aggregate labour market conditions. I will not proceed to develop any stringent tests of economic context effects as they are addressed more specifically in a companion paper to the current one (Gangl, 2000b). Rather it should be sufficient to note some general expectations about these effects without presenting more elaborate theoretical justifications at this point. In general, the hypothesis is that young people's unemployment risks will be negatively related to aggregate labour market conditions as measured by unemployment rates in the total labour force and positively to increasing youth cohort sizes as captured in the youth-adult-ratio in the labour force. Occupational allocation, in contrast, is expected to depend mainly on changes in the skill balance in the market, with educational expansion leading to decreasing occupational outcomes while increasing professionalization of the work force is supposed to imply rising levels of occupational allocation. In the current context, it is, however, mainly relevant that the database used in the empirical analyses allows to introduce such variables as additional controls, potentially enabling to arrive at clearer estimates of genuine institutional effects on transition outcomes in various European countries. I now turn to describe the data in more detail.

3 Data and Methodology

Following the above introduction, this paper will present a set of comparative analyses of labour market entry in the countries of the European Union in the mid-1990s. In the analyses, data for twelve European countries is used, drawing on the 1992-1997 European Community Labour Force Surveys.[2]

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[2] This data has kindly been provided by EUROSTAT, the Statistical Office of the European Union. Of course, EUROSTAT is neither responsible for the uses made of the data nor the views held by the author. The twelve countries chosen for analyses are Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain and the United Kingdom. Luxembourg is excluded for reasons of small sample sizes giving unreliable results, while Finland and Sweden had to be excluded as occupational information is only provided in 1997. For the chosen set of countries, single annual observations were excluded due to breaks in (part of) the time series or other unreliabilities, mostly related to substantial changes in the coverage

This database provides standardised, cross-sectional information on labour force participation, unemployment and various aspects of employment compiled from EU member states' national Labour Force Surveys.[3] The surveys themselves consist of large-scale national samples which are at least repeated annually, thus providing a unique database of repeated cross-sectional surveys of labour market behaviour and employment issues in EU countries (cf. EUROSTAT 1992, 1996, for extensive details on the database).

For the analyses, a subsample of market entrants is drawn from the full ECLFS database: Market entrants are defined as those individuals as who left formal education and training no longer than five years ago. As individual time of leaving education is unavailable from the database, the timing of market entry is proxied by typical graduation ages for the different levels and types of education as published by OECD (1997). At the individual level, gender, potential labour force experience and level and type of education is observed. Potential labour force experience is measured in years since OECD's age of typical graduation for the highest level and type of education achieved. Highest level and type of education achieved is measured in terms of an augmented ISCED classification (UNESCO 1975) which distinguishes four levels of qualifications as present in the standard ISCED scheme, but supplementing this by differentiating three types of qualifications at the upper secondary level. More specifically, the qualification levels distinguished are: ISCED levels 0-2 or having attained no more than lower secondary qualifications, ISCED level 3 or having attained upper secondary education, ISCED level 5 or having attained post-secondary or lower tertiary qualifications, and ISCED levels 6-7 or having attained full university or Ph.D. degrees. In addition, the level of upper secondary education (ISCED 3) is further subdivided according to the nature of qualifications into upper secondary general academic education, upper secondary school-based vocational training, and apprenticeship training, yielding six educational groups in total.[4] All variables are measured as of an individually-specific reference week, regularly scheduled in spring each year.

Based on the ECLFS dataset, unemployment risks and occupational attainment are analyzed as two main aspects of early labour market attainment (unfortunately, neither earnings, wages nor income is available from the ECLFS). With respect to employment and unemployment, the ECLFS database follows standard international ILO definitions (cf. ILO, 1990a), while occupations are classified according to the ISCO-88 COM scheme at the 3-digit level (cf. ILO 1990b, EUROSTAT 1992, 1996). In the current paper, a small modification to the ILO concept of employment is applied: in an analysis of early labour market experiences and the transition from education to work, it appears unwarranted to include all individuals having worked for payment or profit without paying attention to any current participation in education and training, which might actually represent their primary status. Deviating from standard ILO procedures, all individuals participating in any kind of initial formal education and

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of current training activities or the coding of educational qualifications (e.g. France, Belgium or Ireland 1992). Data on Austria is only available since 1995, when that country joined the European Union.

[3] Standardisation of information closely adheres to established international standards as laid down in ILO conventions (cf. ILO 1990; EUROSTAT 1992, 1996).

[4] Additional individual-level information is present in the database, yet unavailable for scientific research as current data protection policies restrict access to nine-dimensional multivariate tables.

training are therefore excluded from the labour force.[5] After all, market entrants are thus defined as individuals having (intermittently, if only) completed their educational careers. For this group, labour market outcomes are investigated in terms of unemployment risks in early careers and initial occupational allocation, the latter being measured in terms of occupational status, the incidence of lower-skilled employment and the attainment of professional employment positions. Below, Overview 1 provides more specific details on the measurement of each concept.

Overview 1

Employment & Labour Force	Modified ILO international definition of employment / labour market participation (cf. ILO 1990a): participation in initial training considered as primary status
Unemployment	ILO international definition of unemployment (cf. ILO 1990a)
Occupational Status	ISEI international socio-economic index score (cf. Ganzeboom et al., 1992; 1996) matched at the level of 3-digit ISCO88-COM occupational detail
Lower-skilled Employment	Un-/semi-skilled or lower-level occupation according to ISCO classification (cf. ILO 1990b): ISCO88-COM, 3-digit occupational groups 422, 512, 520, 522, 611-615, 822-830, 832-933 (e.g. lower-level salesworkers, restaurant workers, machine operators, drivers, elementary services occupations, agricultural and production labourers)
Professional Employment	Professional occupation according to ISCO classification (cf. ILO 1990b): ISCO88-COM, 2-digit occupational groups 11, 12, 21-33 (e.g. teaching and scientific professionals, managers, architects, health professionals, technicians)

In the current analyses, these individual-level measures are complemented by a set of context factor measures, which are conceived of as including both *institutional variables* and *labour market context* factors. As discussed earlier, the latter set of variables is basically introduced as additional contextual controls which will not be discussed explicitly in what follows below (but see Gangl, 2000b, which even uses a full decade of information from the same database). The four macrolevel measures included in the analyses are (a) the demographic size of youth cohorts in terms of the youth-adult ratio in the labour force, i.e. the ratio of market entrants to experienced workers in the total labour force aged 15-59, following the sample specifications detailed above; (b) the aggregate unemployment rate in the total labour force aged 15-59, indexing aggregate economic conditions and business cycle fluctuations, (c) the extent of educational expansion as captured by the proportion of tertiary-level – i.e. ISCED 5-7 – qualified individuals in the total labour force, and (d) the extent of labour market professionalization as measured by the proportion of professional employment positions (as defined in

[5] This rather open and imprecise formulation is meant to include participation in those regulated forms of training which might be considered in some way as ‚initial', while excluding those types of of part-time education which serve to enhance indicidual qualifications while already working. Attending university, upper secondary schools or dual-system types of training would be examples of the former; attending evening schools or firm-based training courses examples for the latter. Full details of coding are available from the author on request.

Overview 1) among total employment. All measures are based on estimates from the ECLFS database for 66 country level observations, i.e. 12 sample countries times 3-6 annual observations. The analyses themselves utilize both within-country mean-centered values to characterize within-country changes in economic contexts, and centered mean values as to capture stable between-country differences in the period of observation. As introduced in the theoretical section above, the variable characterizing institutional labour market contexts amounts to a simple differentiation between the three country clusters discussed earlier. The impact of education and training institutions on transition outcomes will implicitly be controlled in the statistical analyses by conditioning labour market outcomes on types of education attained.

In the following, the paper will first present descriptive evidence on both cross-national variation in early labour market outcomes and the role of educational qualifications for unemployment risks at entering the labour market and initial occupational allocation in the twelve EU countries under study. Early labour market outcomes will then be assessed from comparative micro-macro models, controlling simultaneously for individual resources, institutional and economic context factors, and unobserved heterogeneity between countries and qualifications. This modelling strategy follows in a straightforward manner from the repeated cross-sectional research design of the database used (cf. Blalock, 1984; Judge et al., 1985; Greene, 1997; DiPrete/Grusky 1990a, 1990b) and applies multilevel or generalized linear mixed model estimation in the analyses (cf. Bryk and Raudenbush, 1992; Longford 1993, 1995; Goldstein, 1995). All models control for fixed effects of the set of covariates introduced above, but include the estimation of two normally distributed random effects, one for the country level and a second for the more than 60 national qualifications distinguished in order to account for unmeasured heterogeneity between countries and types of qualifications (cf. van der Velden and Wolbers, 2000, for a similar application). The calculation of standard errors and hypothesis tests is adjusted for the clustering of observations by country and type of education within country. The dichotomous dependent variables of unemployment, lower-skilled employment and professional employment are modelled by specifying a binomial distribution and a logit link function, occupational status is specified to follow a normal distribution with a logarithmic link function.

4 Education and Early Labour Market Outcomes across Europe

As a first step of the empirical analyses, some descriptive evidence on the relation between market entrants' educational background and their initial labour market outcomes will be briefly presented. The following Figures 1-4 provide simple cross-tabulations between education and the four outcome indicators on unemployment and occupational allocation for each of the twelve countries in the sample, averaged across the period 1992-1997. Evidently, it is impossible to discuss all aspects of these results in detail, so it will be attempted to emphasize some broad tendencies, while the multivariate analyses in the following section aim to provide a much more condensed account of the systematic components shaping labour market entry outcomes in Europe.

Turning to market entrants' unemployment risks first, the results clearly show substantial variation, both between countries and between types of education, but also between equivalent types of education across countries. Unemployment risks are lowest, in general, in those four countries operating large scale occupationally-specific training systems: unemployment rates range from 7% in Austria to about 10% in the Netherlands, Denmark or Germany. In Portugal, Belgium, the United Kingdom and Ireland, unemployment rates are between 13% and 21%, while they amount to about 30% in France and Greece, 37% in Spain, and even 42% in Italy. Of course, there is equally wide variation between types of education: university leavers in Austria face an unemployment risk of 5% only, while half of all entrants from upper secondary general or lower tertiary education in Italy or lower secondary education in France are unemployed. Regularly, unemployment rates decline with increasing levels of qualifications. In France, for example, unemployment rates at the upper secondary level are about half the figure for the lowest qualified, and even reduced to about one third for leavers from tertiary level education. Similar relations hold in countries like the United Kingdom, Ireland, Denmark or the Netherlands. Moreover, apprenticeships evidently perform very favourably, both compared to school-based education at the same level of training and across qualificational levels. In all countries operating any such training, unemployment rates for apprentices tend towards those of tertiary level leavers and are certainly far from those of leavers with compulsory education only. But there is additional variation between the same type of education across countries: notably, Southern European countries are different in the sense that there are hardly any benefits attached to higher qualificational levels in terms of unemployment. Rather, unemployment rates in Southern Europe are often even higher at the upper secondary level as compared to those of the lowest qualified leavers, and not much reduced for tertiary level graduates either.

Occupational allocation, in turn, is addressed by the three indicators of occupational status attainment, the probability of lower-skilled employment and the probability of employment in the professions and semi-professions, respectively. In terms of occupational status attainment there is little evidence of cross-national variation, neither in mean status score levels nor in the relation between specific types of education and status level in particular countries. Rather, occupational status increases with the level of education as well as with the academic orientation of the completed track at the upper secondary level in all European countries in fairly similar ways. In part, this result reflects the construction of the scale itself, which is specifically designed to average out cross-national variation in status evaluations for particular occupations (cf. details in Ganzeboom et al., 1992, 1996). Still, it is remarkable that there is little variation in the relation between types of education and status outcomes between countries. There is much more evidence of cross-national variation in occupational allocation once the discrete measures are considered.

Figure 1 Unemployment Rate by Country and Education

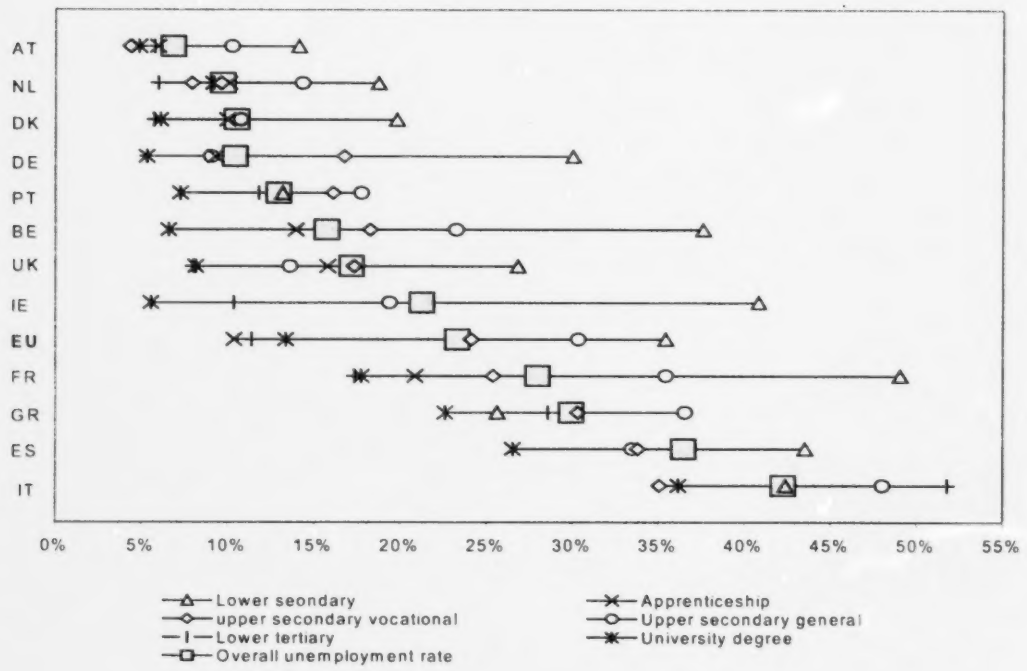
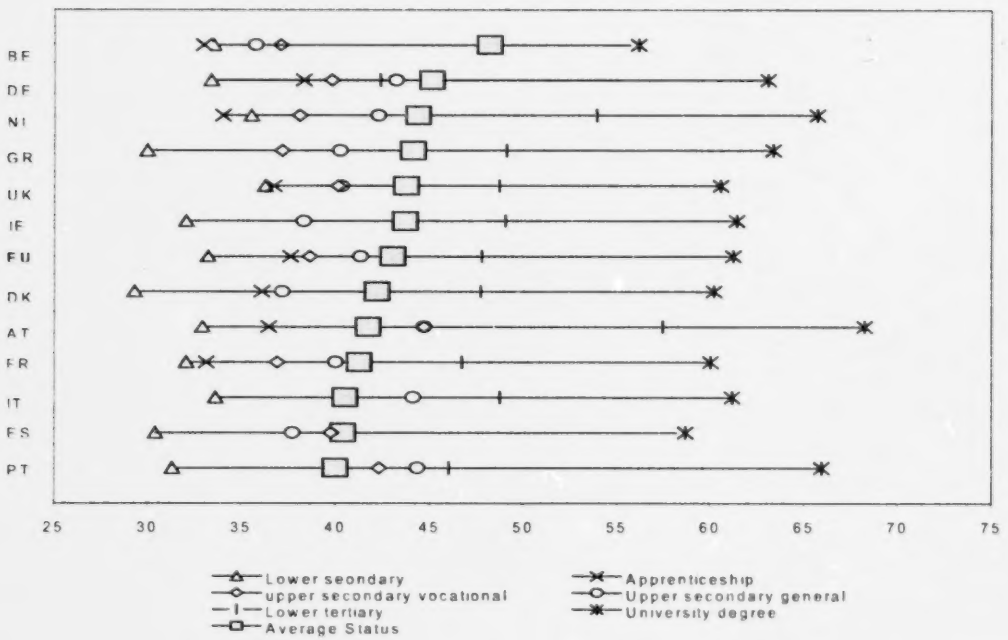


Figure 2 Average Occupational Status (ISEI scores) by Country and Education



Sources: European Community Labour Force Survey 1992-1997

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Figure 3 Probability of Lower-Skilled Employment by Country and Education

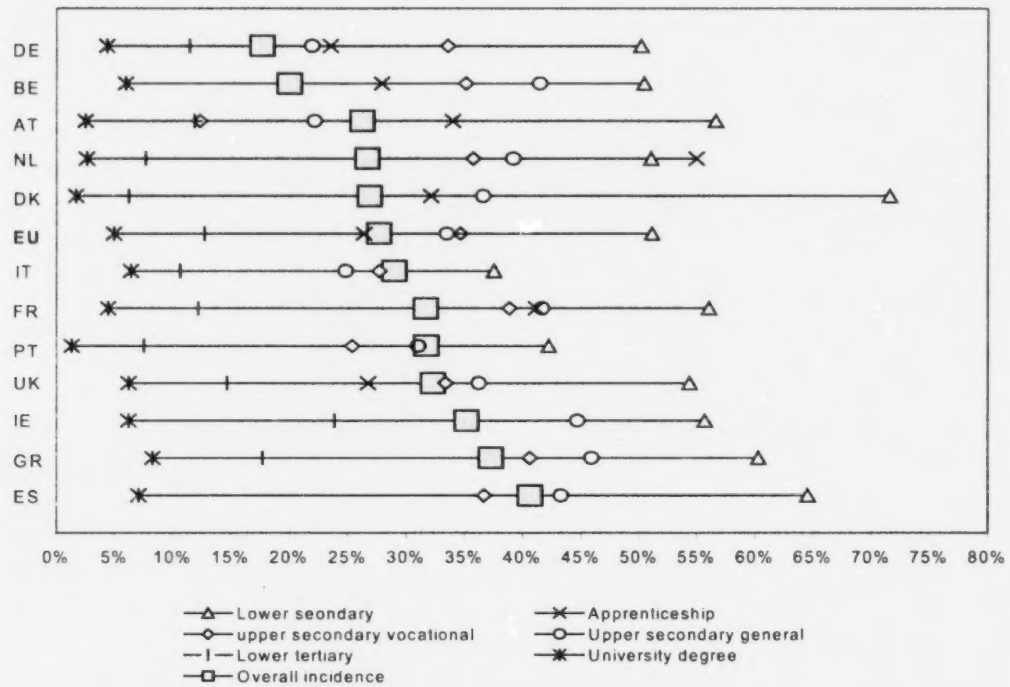
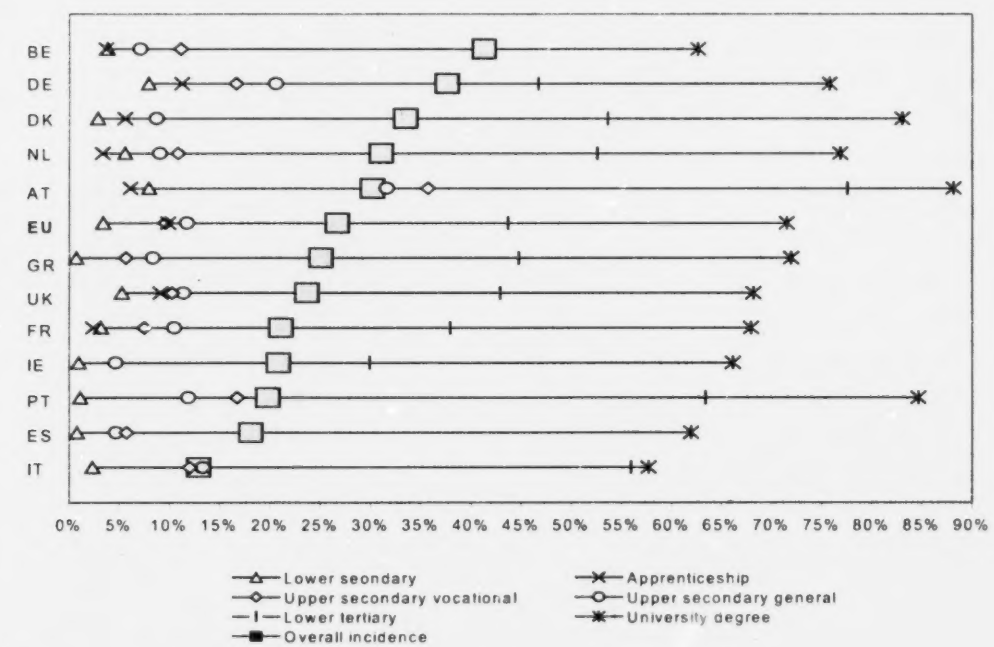


Figure 4 Probability of Professional Employment by Country and Education



Sources: European Community Labour Force Survey 1992-1997

Turning to the lower end of occupational outcomes first, the proportion of market entrants in lower-skilled employment – as defined above – varies substantially across countries and educational groups. The overall proportion of market entrants in such lower-level occupations is lowest in Germany (18%), Belgium (20%), Austria, Denmark and the Netherlands (27%), ranging up to 37% in Greece and 41% in Spain. Of course, it is mostly leavers with compulsory education only who attain employment in these occupations, with the incidence rates for this group being at 50%-60% in most countries, but ranging between some 40% in Italy and Portugal and up to 70% in Denmark. In turn, leavers from both levels of tertiary education are hardly found in lower-level jobs. The picture is less clear-cut at the upper secondary level, however. In general, the incidence rates are at an intermediate level, but there is wide cross-national variation in terms of whether differentiation between different types of training at the upper secondary level exists at all, and if so, which qualifications provide most favourable conditions. In most countries, it seems that school-based vocational education holds some advantages over the general academic tracks, although Germany is a counter example in that respect. Similarly, the relative status of apprenticeship training is not unequivocal. While in most countries apprentices perform equally well or even better than leavers from other upper secondary tracks, this is certainly not the case in Austria or the Netherlands, where apprentices are to a significant degree allocated to lower-level positions.

As a final indicator, I will take a look at the opposite pole of occupational hierarchies, the level of professional employment positions (cf. Figure 4). Like for lower-level employment, there is clear evidence of substantial cross-national variation in this discrete measure of occupational outcomes. The proportion of market entrants in these upper-level form sof employment ranges from about 40% in Belgium and Germany, about one third in Denmark and the Netherlands down to some 20% in Ireland, Portugal and Spain and to even as low as 13% only in Italy. Evidently, the likelihood of starting one's career in such positions is strongly related to a tertiary level educational background. Except for upper secondary leavers in Austria (and maybe Germany), the probability of entering these occupations is virtually negligible. This probability markedly increases for leavers from lower tertiary education and improves even further for university graduates. Still, there is substantial variation in these figures between countries. The probability of professional employment among lower tertiary educated leavers is mostly between 45% and 55%, but ranges between 30% in Ireland and 38% in France up to 63% in Portugal and 78% in Austria.[6] A similar picture applies at the level of university graduates: their probability of entering professional employment regularly is at about two thirds to 70%, with Italy (58%) or Spain (63%) deviating negatively and Austria (88%), the Netherlands (85%) and Denmark (83%) providing particularly good prospects.

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[6] In part this might reflect a relatively heterogeneous coding of national qualifications to this educational level, including post-secondary tracks for some countries and introducing questionable differentiation between tertiary tracks for others (coding details in Eurostat, 1996).

5 Micro-Macro Models of Labour Market Entry

Having presented basic descriptive evidence on the relationship between education and early labour market outcomes, the analyses now turn to provide the multivariate modelling. Unemployment risks are addressed first, followed by a discussion of occupational attainment in terms of the different indicators chosen. A concluding section summarizes the implications of the estimated models for explaining differences in labour market entry patterns between institutional contexts.

5.1 Unemployment Risks at Entering the Labour Market

What explains unemployment risks at entering the labour market in Europe in the mid-1990s? Details on the estimated multilevel models are provided in Table 2, with estimated models successively including additional variables to extract the systematic components of country differences and variation between qualifications. The estimated country level variance component of the null model (Model 0) yields a substantial baseline estimate on country differences in unemployment risks. Model 1, which includes random effects for country and type of education, shows variation between types of education is large, while variation between countries is somewhat reduced, indicating that part of cross-national differences is related to country differences in the distribution of qualifications among school leavers. Both variance components can be substantially reduced by subsequent models, introducing various systematic components into the estimation process. Taking account of the six-category calssification of level and type of qualifications in Model 2 already accounts for about two thirds of the total variation of unemployment risks between types of education (σ^2=.128 vs. σ^2=.320). The parameter estimates show that unemployment risks are lowest for tertiary qualifications, and lower for apprentices than for leavers from other tracks at the lower or upper secondary level; a more specific discussion of these and other findings follows below where discrete change effects estimated from the models are discussed. Besides the impact of education, young women tend to face higher risks of unemployment, as do most recent entrants to the labour market. Models 3 and 4 then begin to include country-level factors into the model. According to Model 3, including the distinction of three European institutional systems, reduces the country-level variation present in Model 2 by about half (σ^2=.241 vs. σ^2=.457). Leavers in OLM systems, in general, face lowest unemployment risks in Europe, while unemployment in Southern European countries is well above EU average. This conclusion is further qualified by Model 4, which includes economic context factors at the country level. The main relevant factor is the countries' aggregate unemployment rate which is strongly positively related to market entrants' unemployment risks. The findings for the institutional contexts remain qualitatively unchanged after introducing this set of controls; the changing magnitudes indicate that part of the advantageous performance of OLM systems in the mid-1990s has been due to relatively favourable economic conditions. Additional country variation, apart from the factors controlled for, appears to be small (σ^2=.04) as compared to the initial estimates (σ^2=.52). As an addition, Model 5 establishes that cyclical movements of the aggregate unemployment rate are also the main factor behind short-term changes in market entrants' unemployment within each country.

Table 2 Unemployment Risks at Labour Market Entry, Multilevel Logit Estimation

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut. systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	-1.508**	-1.566**	-1.535**	-1.507**	-1.460**	-1.461**	-1.467**
Women			0.045**	0.045**	0.045**	0.046**	0.046**
1st/2nd year leaver			0.193**	0.193**	0.193**	0.196**	0.196**
Education [Ref: lower secondary]							
Apprenticeships			-0.135	-0.114	-0.092	-0.092	-0.071
Upper secondary vocational			0.067	0.064	0.043	0.048	0.025
Upper secondary general			0.257**	0.250**	0.247**	0.244**	0.240**
Lower tertiary			-0.319**	-0.323*	-0.317**	-0.317**	-0.299**
University degree			-0.554**	-0.558**	-0.562**	-0.565**	-0.516**
Institutional Systems [Ref: ILM]							
OLM Systems				-0.709**	-0.427**	-0.430**	-0.482**
OLM x Upper secondary general							-0.085
OLM x Upper secondary vocational							-0.071
OLM x Apprenticeships							0.055
OLM x Lower tertiary							-0.291**
OLM x University degree							0.057
Southern Systems				0.489**	0.656**	0.660**	0.724**
South x Upper secondary general							0.075
South x Upper secondary vocational							-0.027
South x Lower tertiary							0.495**
South x University degree							0.117
Between-Country Context							
Unemployment Rate					0.152**	0.152**	0.150**
Youth-Adult Ratio					-0.062	-0.063	-0.063
% Tertiary Level Qualifications					-0.002	-0.002	-0.001
% Professional Employment					0.040	0.040	0.041
Within-Country Changes							
Business Cycle						0.102**	0.102**
Youth-Adult Ratio						0.004	0.004
Educational Expansion						0.019	0.020
Occupational Upgrading						0.012	0.013
Variance Components							
$\sigma^2_{Education}$	/	0.320	0.128	0.127	0.130	0.124	0.061
$\sigma^2_{Country}$	0.519	0.438	0.457	0.241	0.035	0.036	0.043
Deviance	79,232	76,445	76,023	76,023	76,022	75,840	75,842
N	78,955	78,955	78,955	78,955	78,955	78,955	78,955
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p<.05 and *p<.10; all variables are entered effect-coded and mean-centered; (n.e.) – country-level random effect not estimated due to convergence problems.

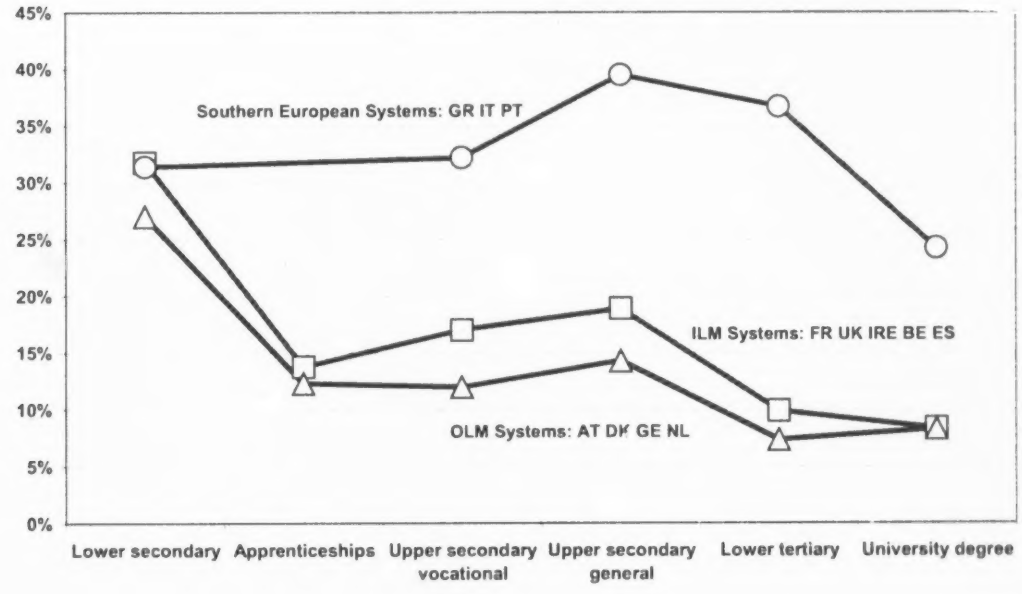
Source: European Community Labour Force Survey 1992-1997

Table 3 Unemployment Risks at Labour Market Entry, Discrete Change Effects

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	0.202	0.300	0.130	0.191	0.227	0.146	0.121
Institutional Systems							
ILM Systems	-0.014	+0.018	+0.007	-0.021	-0.038	-0.047	-0.038
OLM Systems	-0.046	-0.030	-0.007	-0.071	-0.084	-0.073	-0.038
Southern Europe	+0.115	+0.014	N/A	+0.131	+0.168	+0.221	+0.121
Between-Country Economic Factors							
Aggregate Unemployment Rate	+0.024	+0.032	+0.018	+0.024	+0.027	+0.020	+0.017
Youth-Adult Ratio	-0.010	-0.013	-0.007	-0.009	-0.011	-0.008	-0.006
% Tertiary Level Qualifications	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000
% Professional Employment	+0.007	+0.009	+0.005	+0.006	+0.007	+0.005	+0.004
Within-Country Economic Trends							
Business Cycle	+0.016	+0.022	+0.012	+0.016	+0.018	+0.013	+0.011
Youth-Adult Ratio	+0.001	+0.001	+0.000	+0.001	+0.001	+0.000	+0.000
Educational Expansion	+0.003	+0.004	+0.002	+0.003	+0.003	+0.002	+0.002
Occupational Upgrading	+0.002	+0.003	+0.001	+0.002	+0.002	+0.002	+0.001

Notes: Predicted probabilities based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 1 for further details.

Figure 5 Predicted Unemployment Probabilities by Institutional Contexts and Education



Notes: Predicted probabilities based on final model at the means of covariates.

Model 6, finally, includes interaction effects between qualifications and institutional systems, allowing the role of education to vary between contexts. As a result, variation between types of education is reduced to σ^2=.06 only,[7] mostly due to a relatively better standing of leavers from lower tertiary education and relatively larger unemployment risks of the lowest qualified in OLM contexts, while the reverse pattern holds for Southern Europe.[8]

Substantive interpretation of complex and non-linear models like the ones estimated is much facilitated by means of providing predicted probabilities for a core set of features of interest, allowing to add a more quantitative interpretation of estimated effects to the qualitative one already provided above. Table 3 provides these predictions both at the aggregate level and by specific type of education for all context-level variables, each prediction calculated at the means of all other covariates. Figure 1 complements the presentation by providing a graphical display of educational effects in each of the three institutional systems. According to these results, leavers from tertiary education and apprenticeship training face the most favourable prospects at entering the labour market, with predicted probabilities of unemployment between .121 and .146, or equivalently, .06 to .08 below the average prediction. The probability of unemployment for leavers from school-based upper secondary education is around the overall average of .20, with a relative advantage of .03 to vocationally qualified leavers. It is the least qualified who, finally, face the highest unemployment probabilities of about .10 above the average figure, or .300 in total. In addition, these relations differ markedly between institutional contexts, implying a probability differential of .16 between unemployment risks in OLM systems versus Southern European systems (-.046 to +.115) solely due to systemic differences in the evaluation of otherwise identical qualifications. More specifically, unemployment risks for all but leavers with compulsory education only are, at otherwise identical economic context, by at least .10 higher in Southern Europe, leading to the well-known bell-shaped rather than negative relationship between education and unemployment (OECD 1996, 1997). In addition, unemployment risks in OLM systems are also substantially lower than those for the equivalent qualificational groups in ILM contexts, notably among the lowest qualified and at the level of upper secondary and lower tertiary qualifications. The predictions finally also stress the crucial role of aggregate labour market conditions for market entrants' unemployment risks. Comparing the unit effect both between and within countries emphasizes that aggregate labour market conditions disproportionally affect unemployment risks of market entrants: the estimates amount to predicting an overall increase of market entrants' unemployment by 2.4% associated with a 1% increase in a countries' average aggregate unemployment rate over the 1992-1997 period, and a 1.6% increase following a 1% deterioration of the aggregate unemployment rate within any country. The apparent relation between the magnitude of estimated effects and the level of unemployment risks for any educational group is, of course, a consequence of the non-linear model specification adopted. Both, the substantive issue of interactions

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[7] The variance estimate for type of education in the null model (without nesting within country) is σ^2=.72.

[8] In addition to the estimation results provided, separate models for the more recent and more experienced market entrants have been fitted for all dependent variables in order to explore the extent to which core results might be systematically more pronounced among the more recent entrants. There are, however, hardly any indications that pooling the first five years in the labour market affects the results in any meaningful way.

between trends and type of qualification as well as the question of interactions between institutional systems and trend factors are not pursued any further here (but cf. Gangl, 2000b).

5.2 Occupational Allocation of Market Entrants

Turning from unemployment to employment outcomes, the analyses now address the occupational allocation of market entrants across EU countries. In doing so, the paper relies on a multiple rather than singular characterization of occupational outcomes, drawing both on a continuously scaled measure of occupational status and two discrete measures for both the most and least advantageous occupations, respectively. The presentation of results will, in general, follow the format established in the case of unemployment. In more substantive terms, the most general measure of occupational status will be discussed first, while results on both the incidence on lower-skilled employment, and the attainment of professional employment positions follow subsequently.

5.2.1 Status Attainment

Occupational status attainment is measured according to the ISEI scale here (cf. Ganzeboom et al., 1992, 1996) and results from the multilevel regressions of these scores are presented in Table 4, with predicted status scores and discrete change effects again being given in Table 5 and Figure 2. In general, variation between countries in terms of ISEI scores is small (σ^2=.003 on the log-normal scale), and mostly related to cross-national differences in the distribution of qualifications among market entrants rather than any country-level context factor controlled for in the regression. From the set of between-country context factors, only the level of tertiary level graduates in the labour force is weakly negatively related to occupational outcomes. In a clearer fashion, educational expansion and occupational upgrading in the labour market within each country contribute (in counteracting ways) to short-term changes in occupational allocation, with educational expansion leading to reduced, and occupational upgrading implying increasing levels of status attainment. Increasing youth-adult ratios in the market are also implying small increases in status attainment.

In turn, status attainment is much clearer linked to individual resources. Young women tend to achieve slightly more favourable employment positions, while the reverse result holds for the most recent entrants to the market. The role of education is crucial, however, and accounting for the level and type of qualifications taps most of the existing variation between qualifications in terms of average occupational status outcomes. At average context conditions, the model predicts a status score of 31.7 for the lowest qualified, with returns to apprenticeships of about 3.5 status points, 7 points for leavers from upper secondary vocational education, 8.5 status points for entrants from upper secondary general education, 16 ISEI score points for leavers from lower tertiary education and up to 30 points for university graduates. In addition, there is no evidence of strong interactions between educational effects and institutional systems, so that leavers in OLM contexts perform only slightly better overall than do their counterparts in both ILM and Southern systems.

Table 4 Status Attainment at Labour Market Entry, Multilevel Estimation (Log ISEI Score)

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	3.757**	3.750**	3.727**	3.731**	3.726**	3.726**	3.726**
Women			0.012**	0.012**	0.012**	0.012**	0.012**
1st/2nd year leaver			-0.018**	-0.018**	-0.018**	-0.018**	-0.018**
Education [Ref: lower secondary]							
Apprenticeships			-0.168**	-0.169**	-0.171**	-0.171**	-0.172**
Upper secondary vocational			-0.073**	-0.071**	-0.072**	-0.073**	-0.072**
Upper secondary general			-0.037**	-0.037**	-0.035*	-0.035*	-0.030
Lower tertiary			0.140**	0.139**	0.140**	0.140**	0.138**
University degree			0.401**	0.401**	0.402**	0.402**	0.405**
Institutional Systems [Ref: ILM]							
OLM Systems				0.019	0.021	0.021	0.020
OLM x Upper secondary general							-0.009
OLM x Upper secondary vocational							-0.010
OLM x Apprenticeships							0.001
OLM x Lower tertiary							0.015
OLM x University degree							0.017
Southern Systems				0.016	-0.013	-0.013	-0.015
South x Upper secondary general							0.038
South x Upper secondary vocational							0.016
South x Lower tertiary							-0.031
South x University degree							0.008
Between-Country Context							
Unemployment Rate					-0.002	-0.002	-0.002
Youth-Adult Ratio					0.002	0.002	0.002
% Tertiary Level Qualifications					-0.007*	-0.007*	-0.007*
% Professional Employment					0.002	0.002	0.002
Within-Country Changes							
Business Cycle						0.001	0.001
Youth-Adult Ratio						0.001**	0.001**
Educational Expansion						-0.014**	-0.014**
Occupational Upgrading						0.021**	0.021**
Variance Components							
$\sigma^2_{Education}$	/	0.058	0.004	0.004	0.004	0.004	0.004
$\sigma^2_{Country}$	0.003	(n.e.)	0.002	0.001	0.001	0.001	0.001
Deviance	59,294	59,242	59,244	59,244	59,244	59,240	59,239
N	59,306	59,306	59,306	59,306	59,306	59,306	59,306
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p< 05 and *p<.10; all variables are entered effect-coded and mean-centered; (n.e.) – country-level random effect not estimated due to convergence problems.

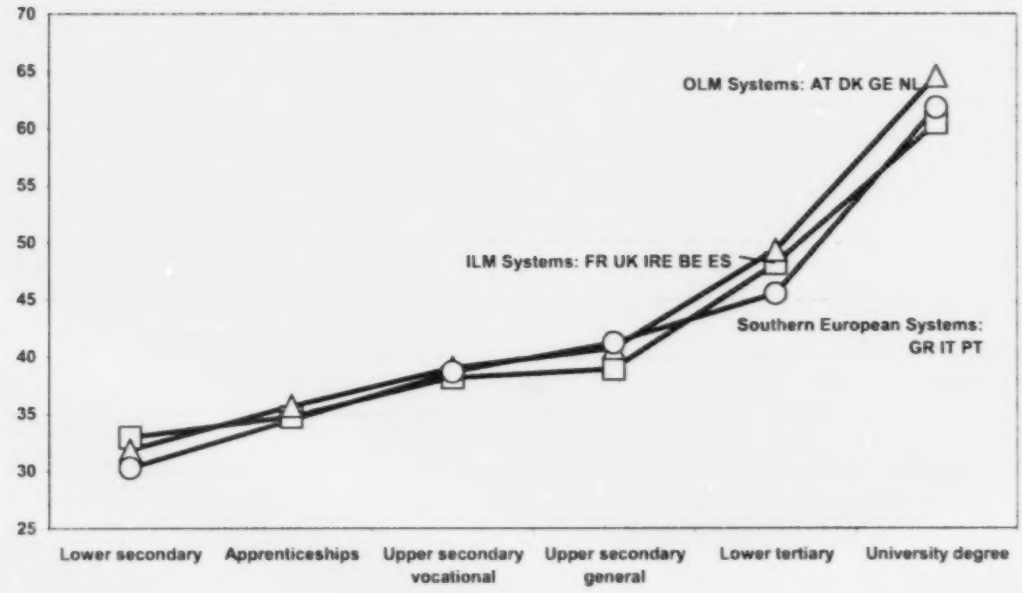
Source: European Community Labour Force Survey 1992-1997

Table 5 Status Attainment at Labour Market Entry, Discrete Change Effects (ISEI Score)

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	41.4	31.7	35.2	38.6	40.3	47.6	62.2
Institutional Systems							
ILM Systems	-0.28	1.28	-0.47	-0.45	-1.35	+0.50	-1.80
OLM Systems	+0.80	+0.17	+0.47	+0.40	+0.46	+1.70	+2.32
Southern Europe	-0.59	-1.39	N/A	+0.05	+0.93	-2.12	-0.45
Between-Country Economic Factors							
Aggregate Unemployment Rate	-0.10	-0.08	-0.08	-0.09	-0.10	-0.11	-0.15
Youth-Adult Ratio	+0.08	+0.06	+0.07	+0.07	+0.08	+0.09	+0.12
% Tertiary Level Qualifications	-0.30	-0.23	-0.25	-0.28	-0.29	-0.34	-0.45
% Professional Employment	+0.07	+0.05	+0.06	+0.07	+0.07	+0.08	+0.11
Within-Country Economic Trends							
Business Cycle	+0.03	+0.03	+0.03	+0.03	+0.03	+0.04	+0.05
Youth-Adult Ratio	+0.06	+0.04	+0.05	+0.05	+0.06	+0.07	+0.09
Educational Expansion	-0.59	-0.45	-0.50	-0.55	-0.58	-0.68	-0.89
Occupational Upgrading	+0.89	+0.68	+0.75	+0.83	+0.86	+1.02	+1.33

Notes: Predictions based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 3 for further details.

Figure 6 Predicted ISEI Scores by Institutional Contexts and Education



Notes: Predicted status scores based on final model at the means of covariates.

5.2.2 Incidence of Lower-Skilled Employment

As status scores provide summary measures of different aspects of employment positions, they are notoriously difficult to interpret. Therefore, two alternative, discrete measures of occupational allocation are considered here, namely allocation at the top and bottom level of the occupational hierarchy. Turning to the latter first, Table 6 presents the outcomes of estimated multilevel models of the incidence of such lower-level employment at market entry. Again, Table 7 gives the estimates of discrete change effects and Figure 3 graphically depicts the predicted probabilities by educational groups and institutional systems. Compared to the case of unemployment, overall cross-national variation in this indicator is much smaller (σ^2=.11 in Model 0 vs. σ^2=.52), yet variation between types of qualifications much more important (σ^2=1.48 in Model 1 vs. σ^2=.72). Most of this variation is again captured by differentiating between the six types of qualifications, with little evidence of strong interactions between educational effects and institutional contexts. Nor is there evidence of substantial differences in the incidence of lower-skilled employment between institutional systems or according to measured economic context factors. It is only that increasing educational expansion within countries fosters, while increasing occupational upgrading appears to reduce the probability of lower-level employment at entering the labour market in the short run. Actually, most of the country differences explained by the introduction of systematic factors into the model are related to cross-national differences in educational distributions, leaving a still relatively large proportion of overall country differences unexplained.

With respect to individual-level factors, recent market entrants again face relatively less favourable outcomes, while the evidence on gender differences is weak at best. As indicated already above, educational differences are pronounced, however. In average context conditions, the probability of being in any kind of lower-level occupation within the first five years in the market is estimated at .55 for the lowest qualified, but at .045 only for university leavers. The predicted probability for leavers from lower tertiary education is slightly less than .13, while the respective figures for leavers from the different types of upper secondary education and training are around one third. There is slight evidence of institutional variation in the role of education here, with educational stratification being slightly more pronounced in OLM systems: there, the lowest qualified leavers have somewhat higher risks of ending up in lower-level jobs, while the reverse is true for school-based upper secondary and tertiary qualifications. Systematic differences between ILM and Southern countries are hardly discernible.

Table 6 Lower-Skilled Employment at Labour Market Entry, Multilevel Logit Estimation

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	-0.890**	-1.212**	-1.100**	-1.123**	-1.099**	-1.104**	-1.117**
Women			0.017*	0.017*	0.017*	0.018*	0.018*
1st/2nd year leaver			0.110**	0.110**	0.110**	0.108**	0.108**
Education [Ref: lower secondary]							
Apprenticeships			0.507**	0.521**	0.540**	0.539**	0.493**
Upper secondary vocational			0.389**	0.379**	0.383**	0.386**	0.396**
Upper secondary general			0.553**	0.549**	0.540**	0.541**	0.542**
Lower tertiary			-0.821**	-0.816**	-0.822**	-0.834**	-0.811**
University degree			-1.926**	-1.932**	-1.939**	-1.943**	-1.941**
Institutional Systems [Ref: ILM]							
OLM Systems				-0.170	-0.117	-0.118	-0.151
OLM x Upper secondary general							-0.079
OLM x Upper secondary vocational							-0.005
OLM x Apprenticeships							0.261*
OLM x Lower tertiary							-0.218
OLM x University degree							-0.291*
Southern Systems				-0.059	0.044	0.043	0.089
South x Upper secondary general							-0.005
South x Upper secondary vocational							-0.004
South x Lower tertiary							0.089
South x University degree							0.174
Between-Country Context							
Unemployment Rate					0.025	0.025	0.026
Youth-Adult Ratio					0.020	0.019	0.009
% Tertiary Level Qualifications					0.020	0.021	0.024
% Professional Employment					-0.003	-0.004	-0.003
Within-Country Changes							
Business Cycle						-0.005	-0.005
Youth-Adult Ratio						0.002	0.002
Educational Expansion						0.106**	0.106**
Occupational Upgrading						-0.059*	-0.059*
Variance Components							
$\sigma^2_{Education}$	/	1.484	0.121	0.121	0.122	0.125	0.124
$\sigma^2_{Country}$	0.113	(n.e.)	0.062	0.040	0.049	0.047	0.046
Deviance	73,343	63,869	63,779	63,779	63,778	63,682	63,678
N	63,715	63,715	63,715	63,715	63,715	63,715	63,715
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p< .05 and *p< .10; all variables are entered effect-coded and mean-centered. (n.e.) – country-level random effect not estimated due to convergence problems

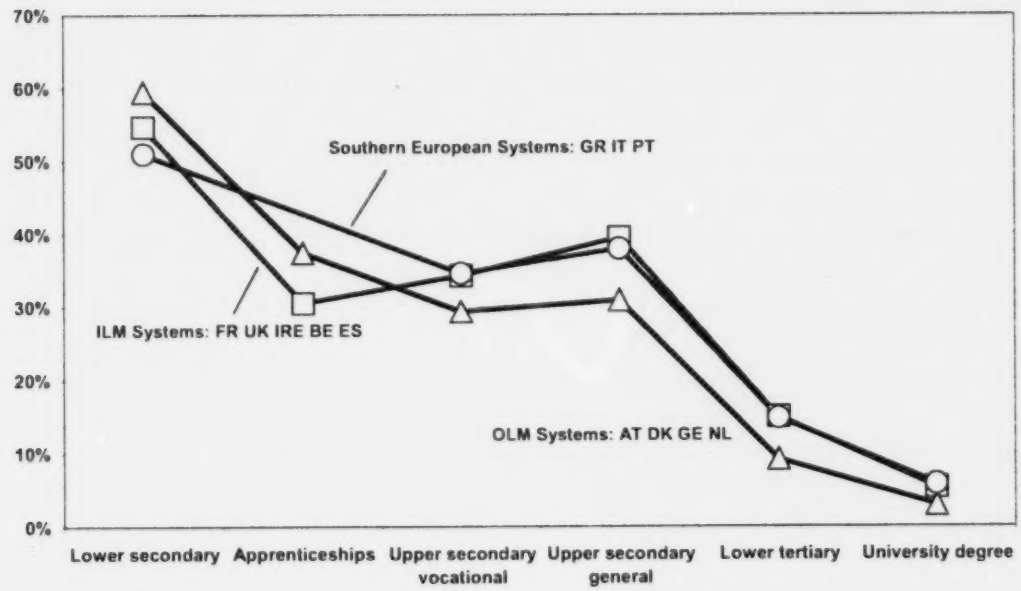
Source: European Community Labour Force Survey 1992-1997

Table 7 Lower-Skilled Employment at Labour Market Entry, Discrete Change Effects

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	0.329	0.551	0.339	0.327	0.360	0.127	0.045
Institutional Systems							
ILM Systems	+0.005	-0.004	-0.034	+0.016	+0.034	+0.023	+0.008
OLM Systems	-0.001	+0.044	+0.035	-0.033	-0.051	-0.036	-0.016
Southern Europe	+0.003	-0.041	N/A	+0.019	+0.020	+0.021	+0.013
Between-Country Economic Factors							
Aggregate Unemployment Rate	+0.005	+0.006	+0.006	+0.006	+0.006	+0.003	+0.001
Youth-Adult Ratio	+0.002	+0.002	+0.002	+0.002	+0.002	+0.001	+0.000
% Tertiary Level Qualifications	+0.005	+0.006	+0.005	+0.005	+0.006	+0.003	+0.001
% Professional Employment	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.000
Within-Country Economic Trends							
Business Cycle	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	+0.000
Youth-Adult Ratio	+0.000	+0.001	+0.001	+0.001	+0.001	+0.000	+0.000
Educational Expansion	+0.020	+0.026	+0.024	+0.024	+0.025	+0.012	+0.005
Occupational Upgrading	-0.011	-0.015	-0.013	-0.013	-0.013	-0.006	-0.002

Notes: Predicted probabilities based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 5 for further details.

Figure 7 Predicted Probabilities by Institutional Contexts and Education



Notes: Predicted probabilities based on final model at the means of covariates.

5.2.3 Access to Professional Employment Positions

As a final indicator of initial occupational allocation, the probability of access to professional employment positions at entering the market is considered. And as before, Table 8 provides full details of the estimated models, while Table 9 holds the predicted probabilities and discrete change effects, which are in part depicted graphically in Figure 4. The two null models (Models 0/1) indicate substantial variation in this variable, both cross-nationally (σ^2=.204) and between types of education (σ^2=3.267), which is consistently larger than with respect to the incidence of lower-skilled employment. And as in the previous estimation, cross-national variation in terms of occupational allocation is much smaller than was the case for unemployment, while variation between types of education is considerably larger. But again, most of the variance between types of education is accounted for by differentiating the six measured categories of education. There is almost no evidence of a systematic interaction between educational effects and institutional systems. But there is evidence of an institutional difference at the country level, reducing the country level variation by more than half (σ^2=.11 in Model 3 vs. σ^2=.26 in Model 2). According to the parameter estimates in Model 3, market entrants in OLM systems have a consistently higher probability of professional employment than do their counterparts in both Southern and ILM systems. As the estimation provided by Model 4 clarifies, part of this favourable situation is due to a more favourable aggregate labour market situation and, on average, a smaller proportion of tertiary qualifications in the market, both of which notably improve the relative position of OLM and Southern Europe versus ILM systems. Still, a systematically more favourable situation prevails in OLM systems after controlling for country-level economic context factors, which, besides, captures most of the variance between countries. In addition, the same trend effects as for status attainment can be established, with the probability of attaining professional positions declining with educational expansion, increasing with occupational upgrading, and weakly increasing with growing youth-adult ratios in the labour force.

Turning to the individual-level factors, I find a negative effect on the probability of professional employment for women and most recent market entrants. The pervasive effects of educational qualifications are again best described by considering the predicted probabilities at the average context conditions, as provided in Table 9 and Figure 4, respectively. Of course, attainment of such prestigious positions is basically confined to leavers from tertiary education, with predicted probabilities for secondary-level leavers not exceeding a level of about .10 in any case. For tertiary level leavers, the model estimation predicts an average probability of .45 for leavers from lower tertiary education, and .71 for university graduates. In this case, there is also evidence of variation between institutional systems, with relatively larger advantages to both types of tertiary qualifications in OLM contexts and to lower tertiary leavers in Southern Europe. The relatively more advantageous position of tertiary leavers in OLM contexts leads to a probability differential of about .05 as compared to the average prediction for both groups of tertiary leavers, and a differential of .10 between OLM systems and the least advantageous system, respectively (ILM systems for lower tertiary, and Southern Europe for university graduates).

Table 8 Professional Employment at Labour Market Entry, Multilevel Logit Estimation

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut. systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	-1.076**	-1.572**	-1.763**	-1.735**	-1.783**	-1.786**	-1.785**
Women			-0.035**	-0.035**	-0.035**	-0.036**	-0.036**
1st/2nd year leaver			-0.173**	-0.173**	-0.173**	-0.173**	-0.173**
Education [Ref: lower secondary]							
Apprenticeships			-1.421**	-1.435**	-1.446**	-1.449**	-1.437**
Upper secondary vocational			-0.404**	-0.393**	-0.407**	-0.413**	-0.404**
Upper secondary general			-0.499**	-0.496**	-0.483**	-0.482**	-0.467**
Lower tertiary			1.557**	1.549**	1.554**	1.563**	1.597**
University degree			2.658**	2.662**	2.668**	2.677**	2.683**
Institutional Systems [Ref: ILM]							
OLM Systems				0.504**	0.352**	0.354**	0.370**
OLM x Upper secondary general							-0.070
OLM x Upper secondary vocational							0.005
OLM x Apprenticeships							-0.061
OLM x Lower tertiary							-0.171
OLM x University degree							-0.075
Southern Systems				-0.082	-0.263	-0.266	-0.279
South x Upper secondary general							0.165
South x Upper secondary vocational							0.025
South x Lower tertiary							0.344*
South x University degree							0.082
Between-Country Context							
Unemployment Rate					-0.058*	-0.058*	-0.054
Youth-Adult Ratio					-0.040	-0.039	-0.033
% Tertiary Level Qualifications					-0.040*	-0.040*	-0.044*
% Professional Employment					0.009	0.009	0.013
Within-Country Changes							
Business Cycle						0.008	0.007
Youth-Adult Ratio						0.010**	0.010**
Educational Expansion						-0.111**	-0.111**
Occupational Upgrading						0.168**	0.169**
Variance Components							
$\sigma^2_{Education}$	/	3.267	0.168	0.165	0.167	0.173	0.168
$\sigma^2_{Country}$	0.204	(n.e.)	0.257	0.111	0.020	0.020	0.029
Deviance	71,377	47,947	47,784	47,785	47,784	47,745	47,742
N	63,742	63,742	63,742	63,742	63,742	63,742	63,742
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p<.05 and *p<.10; all variables are entered effect-coded and mean-centered. (n.e.) – country-level random effect not estimated due to convergence problems

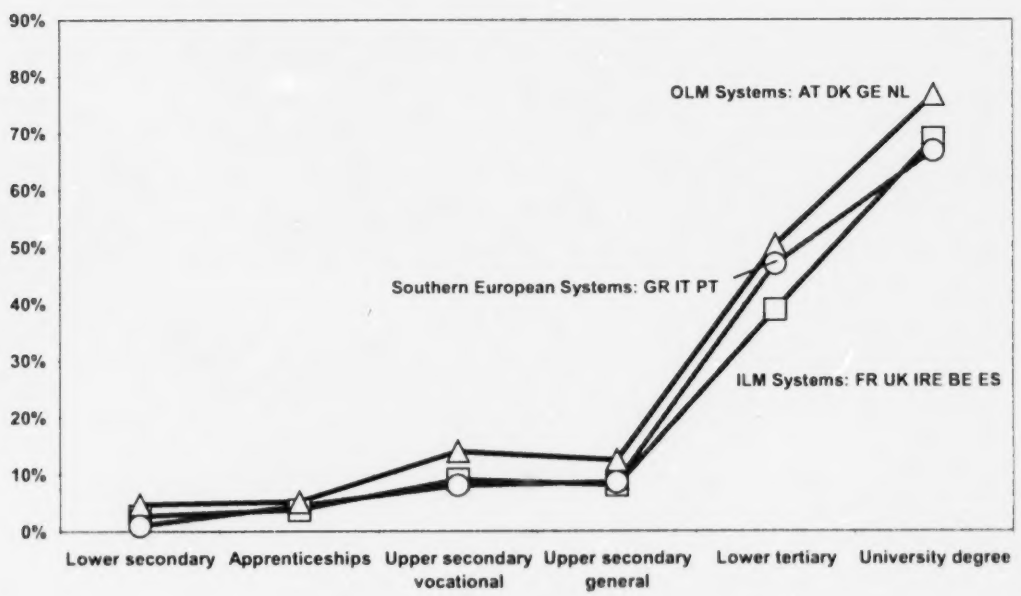
Source: European Community Labour Force Survey 1992-1997

Table 9 Professional Employment at Labour Market Entry, Discrete Change Effects

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	0.208	0.023	0.044	0.101	0.095	0.453	0.711
Institutional Systems							
ILM Systems	-0.012	+0.004	-0.007	-0.010	-0.015	-0.064	-0.021
OLM Systems	+0.033	+0.024	+0.008	+0.039	+0.029	+0.050	+0.057
Southern Europe	-0.018	-0.013	N/A	-0.021	-0.009	+0.016	-0.042
Between-Country Economic Factors							
Aggregate Unemployment Rate	-0.005	-0.001	-0.002	-0.005	-0.005	-0.013	-0.011
Youth-Adult Ratio	-0.003	-0.001	-0.001	-0.003	-0.003	-0.008	-0.007
% Tertiary Level Qualifications	-0.004	-0.001	-0.002	-0.004	-0.004	-0.011	-0.009
% Professional Employment	+0.001	+0.000	+0.001	+0.001	+0.001	+0.003	+0.003
Within-Country Economic Trends							
Business Cycle	+0.001	+0.000	+0.000	+0.001	+0.001	+0.002	+0.001
Youth-Adult Ratio	+0.001	+0.000	+0.000	+0.001	+0.001	+0.002	+0.002
Educational Expansion	-0.011	-0.002	-0.004	-0.010	-0.009	-0.027	-0.023
Occupational Upgrading	+0.017	+0.004	+0.008	+0.016	+0.016	+0.042	+0.033

Notes: Predicted probabilities based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 7 for further details.

Figure 8 Predicted Probabilities by Institutional Contexts and Education



Notes: Predicted probabilities based on final model at the means of covariates.

5.3 Comparing Labour Market Entry across Institutional Systems

Having performed a set of comparative analyses of unemployment and occupational allocation at labour market entry, where the role of educational resources and the role of different institutional contexts for market entry, both providing different qualificational backgrounds to market entrants and varying conditions for converting educational resources into labour market outcomes, has been emphasized, the final question to be addressed is whether and to which extent such institutional differences are able to explain the observed differences between institutional systems in terms of labour market entry patterns. The results of a final analysis decomposing the empirical differences between the three institutional systems differentiated throughout the paper according to the systematic effects established in the multivariate analyses are given in Table 10. There, empirical differences in aggregate labour market entry outcomes between the systems are related to system level differences in (a) the distribution of qualifications among market entrants (education and training systems), (b) the effects of institutional labour market systems, encompassing both the estimated main effects and the interaction between system type and education (labour market context), (c) aggregate labour market conditions, and (d) the extent of educational expansion, as measured by the proportion of tertiary degrees in the market. In the first column of the table, the aggregate prediction at average context conditions are repeated from the respective tables in the above section. The last column provides the empirical aggregate system differences at otherwise average context conditions, expressed as deviation from the overall average in the first column. As such, the well-known advantage of OLM systems with respect to market entrants' unemployment risks is expressed as a -.11 reduction of the overall unemployment rate as compared to the EU average prediction of .20. On the other hand, the Southern countries empirically deviate sharply from this average by about the same factor, yet in opposite direction. In similar ways, empirical system differences are provided for the different indicators of occupational allocation, which also reflect results reported in earlier sections: there are only minor systemic differences in terms of ISEI status scores, while OLM systems perform markedly better both in terms of a lower proportion of lower-skilled employment among market entrants (-.10 reduction from the average prediction of .33) and a larger proportion of young people in professional employment positions (.09 increase from the average prediction of .21). Notably with respect to the latter dimension, market entrants in Southern Europe hold such advantageous positions to a markedly smaller extent (-.08 decrease from an average of .21). In most cases, ILM systems score close to the EU average.

To which extent can these empirical differences be related to systemic differences in the role of education and in the distribution of qualifications among school leavers? Columns 2-4 hold the information of main interest here, as they give the predicted institutional differences to these factors, both in terms of their single and combined effects. Columns 5 and 6 add country differences in aggregate unemployment and the degree of educational expansion to this, providing some indications of how well overall differences between systems can be reproduced from a selected set of factors controlled in the multivariate models. And although the precise figures of course vary, the general conclusion is that institutional differences related to market entrants' educational resources tend to explain a major part of the empirically observed differences between systems on all four indicators.

This can be more easily discussed for the two systems deviating clearly from the EU average, the OLM and the Southern ones. Taking a look at the decompositions of OLM system performance first, institutional differences related to education and training explain about two thirds of the favourable system performance in terms of unemployment (.072/.113), all of the (small) advantage in terms of status attainment, about 40% of the favourable performance in terms of lower-skilled employment (.037/.10), and finally, more than half the favourable situation with respect to professional employment outcomes (.05/.089). In each case, the favourable situation for market entrants in OLM systems is additionally fostered by a currently relatively favourable economic situation, but this effect is generally smaller than the institutional difference. Considering the educational effects in more detail, it is also apparent that the advantage of OLM systems rests on both a more favourable institutional context in labour markets and a more favourable qualificational background of market entrants, although the precise relation varies depending on the indicator chosen. With respect to unemployment, both effects are of equal importance. In the case of occupational allocation, it is mostly a relatively favourable qualificational background of market entrants that generates the system-level advantage in terms of lower-skilled employment, while in the case of professional employment, there is evidence of a relatively strong role of favourable institutional conditions in the labour market in addition to the positive effects of differences in market entrants' educational background.

The situation, interestingly, is quite different in the Southern systems. Here, institutional differences related to the role and distribution of education among market entrants similarly explain a major part of the observed deviating pattern, in all cases reproducing or even overpredicting actual system differences. In contrast to the OLM pattern, the relative importance of each component in bringing about this overall result is clear-cut, however. Southern Europe deviates in terms of aggregate unemployment because the institutional context of labour markets works markedly against young people at all levels of education; the additional contribution of a still less favourable educational background of market entrants is only comparatively small. In turn, lower occupational outcomes for market entrants are mostly related to the relatively disfavourable educational distribution among market entrants rather than variation in the role of education for occupational attainment.

Table 10 Institutional Systems and Labour Market Entry: Decomposing System Performance

	Average Prediction	System Differences (a) Educational Systems - Educational Distribution	(b) Labour Market Context	(a+b) Educational Systems + Labour Market Context	(a+b+c) Education + Aggregate Unemploy-ment Rate	(a+b+c+d) Education + Unemploy-ment Rate + % Tertiary Education	Empirical Differences (at average context conditions)
			Unemployment Risks				
Probability of Unemployment							
ILM Systems	0.202	+0.007	-0.014	-0.009	+0.059	+0.058	+0.015
OLM Systems	0.202	-0.040	-0.046	-0.072	-0.119	-0.119	-0.113
Southern Europe	0.202	+0.037	+0.115	+0.129	+0.130	+0.131	+0.116
			Occupational Allocation				
Status Attainment (ISEI Score)							
ILM Systems	41.4	+0.51	-0.28	+0.31	+0.04	-0.81	-0.20
OLM Systems	41.4	+1.00	+0.80	+1.93	+2.30	+1.89	+1.74
Southern Europe	41.4	-2.36	-0.59	-2.77	-2.77	-0.91	-1.85
Probability of Lower-Skilled Employment							
ILM Systems	0.329	-0.003	+0.005	+0.006	+0.020	+0.033	+0.051
OLM Systems	0.329	-0.046	-0.001	-0.037	-0.053	-0.048	-0.100
Southern Europe	0.329	+0.066	+0.003	+0.059	+0.059	+0.025	+0.024
Probability of Professional Employment							
ILM Systems	0.208	+0.017	-0.012	+0.003	-0.012	-0.024	-0.019
OLM Systems	0.208	+0.022	+0.033	+0.050	+0.069	+0.064	+0.089
Southern Europe	0.208	-0.064	-0.018	-0.080	-0.080	-0.060	-0.076

Notes: Predicted system differences compared to the average prediction; all predictions are based on the final model for each dependent variable. Cf. Tables 1, 3, 5, and 7 for further details.

6 Summary and Conclusions

In sum, the empirical analyses provided reiterate the standard result of the crucial role of education for successful integration of young people into the labour market. Even in this early stage of careers, education provides a highly productive resource for favourable labour market attainment. In general, market entrants with higher levels of education experience lower unemployment risks and more favourable occupational allocation in their initial years in the labour force. In addition, vocational specialization and notably the completion of vocational training in an apprenticeship or dual system environment markedly reduce unemployment risks as compared to those of both lower secondary leavers and leavers with academic upper secondary education. These results hold across a sample of twelve European countries in the mid-1990s, controlling for very different economic context conditions prevailing in these countries and allowing for otherwise unmeasured heterogeneity between countries and types of education.

Insofar as European education and training systems produce markedly different qualification profiles among market entrants, these results bear important implications for an institutional explanation of cross-national differences in labour market outcomes for those entering the market. As education and training systems vary in their effectivity of providing young people with productive qualificational resources valued in labour markets, a large part of cross-national differences in market entrants' unemployment rates or initial occupational attainment can consistently be related to compositional differences between countries in the distribution of qualifications among market entrants. Contrasting the group of dual system type countries to the other Northern European countries, these compositional differences alone account for about 50% of the empirical differential in terms of unemployment rates and still around one third of the differential in the incidence of lower-skilled employment. Clearly, the institutional structure of education and training systems is a most powerful factor in achieving smooth transition patterns between education and work and a quick integration of young people into working life. Given that the major division between Northern European countries occurs in terms of the relative importance of vocational training at the upper secondary level and, associated to it, in the extent of dual system arrangements for training provision, it is clear that such training arrangements constitute a major source of smoother transition patterns in dual system countries. Additionally, there is some evidence that current lower levels of education among market entrants in Southern Europe partially contribute to less favourable transition outcomes, although this applies more to lower aggregate levels of occupational attainment than in the case of unemployment.

In assessing these results on the importance of education and training systems for explaining on cross-national differences in labour market entry, it should be emphasized again that the estimated models provide a substantial advancement beyond available evidence as they, in contrast to alternative studies, are derived from an explicitly microlevel estimation which additionally incorporates an extensive set of measured and unmeasured macrolevel controls in a simultaneous estimation. This implies that even after statistically controlling for the effects of varying economic context conditions on transition outcomes, fundamental institutional differences operate in bringing about observed cross-national differences. This not only includes the compositional effects discussed above, but also the impact of institutional arrangements in labour markets, as explored by a fairly crude distinction between three types of labour market systems in the analyses. According to the results, there is considerable evidence that rigid institutional conditions in the Southern European labour markets work against young people entering the market, irrespective of, and in a sense devaluating, earlier investments in education and training. Entering the labour market in a Southern European context is likely to imply a much extended period of unemployment before securing a first job as compared to the Northern European experience, even after controlling for education and economic context factors (cf. also Russell and O'Connell, 2000). Of course, the present analysis fails to identify the precise institutional sources for this pattern. Nevertheless, the comparative analysis strongly suggests to refrain from any oversimplified accounts of the Southern peculiarity. The lack of contract regulations allowing to adjust job rewards and initial productivity certainly have some role to play in this respect. Still, there is the intriguing observation that it is the highly qualified which face integration problems rather than the lowest qualified (as in Northern Europe) who would generally be expected to bear the unemployment costs of strong employment protection. Any explanation based on the effects of strict

employment protection would thus have to come to terms with the fact that the lowest qualified do not worse in Southern Europe as compared to Northern European economies. As far as I can see, there are two potential factors that might explain this pattern. The one argument would continue to focus on the detrimental effects of strict employment protection on young people's employment chances, but would argue that family networks in the small-firm based Southern economies effectively provide the functional substitute which generates the flexibility necessary to integrate lower qualified leavers. If this were the case, one would of course also expect different selectivity patterns to operate at the secondary level of educational systems. Another argument consistent with the observed patterns would be to focus on differences in supply-side reactions to institutional rigidities in the labour market. If new entrants to the labour market intend to and, indeed, are to a larger extent enabled to fulfill their occupational aspirations already early in careers, then one would also expect a selection of relatively highly educated into search unemployment (cf. the accounts in e.g. Roberts et al., 1999). Obviously, much richer databases than Labour Force Surveys are needed to test these implications.

At the same time as institutional rigidities in the Southern labour markets are indicated, the analyses also point to more favourable conditions for labour market entrants in OLM type labour market contexts. These positive effects occur in terms of unemployment risks, but also with respect to avoiding lower-skilled employment and access to employment in the professional sector. The results are consistent with arguments related to the operation of strong occupational labour markets, which tend to organize worker competition around skills rather than experience but whose viability heavily depends on the presence of a strong vocational training system (Marsden, 1990). The empirical findings can easily be read as indicating a more immediate match between qualifications and employment positions in these systems. In particular, better educated leavers have a systematically lower probability of starting their careers in lower level jobs and university graduates are significantly more likely to immediately enter the professional segment. Even more compelling is the evidence with respect to unemployment. In the OLM economies, it is vocational training (independent of its source) which provides for smoother market entry, in the other Northern European countries, it is the linkage to a specific employer through apprenticeship contracts or other dual types of training provision. Adding up the institutional effects discussed allows to explain about 70% of the favourable performance of the set of OLM systems in terms of market entrants' unemployment risks, and still 50% and 40% of the advantage in terms of early access to professional employment and the incidence of lower-skilled employment, respectively.

A final remark about the role of education. As a whole, the stability of the labour market value of the different types of education across national and institutional contexts as established in the analyses suggests to view qualifications mainly as a productive resource of market entrants in securing an adequate start into working life rather than a mere credentialist screening device. Education certainly bears signals about potential productivity to employers, but apparently the capacities conveyed by similar types of education are, broadly speaking, also recognized and rewarded by employers in fairly similar ways. This should not preclude to discuss the relative merits of better or worse examples of specific national qualifications and their features – in fact, this is even accounted for in the estimated models. The point is that, in general, it pays off for market entrants to invest in training in precisely the

ways predicted from a very simple theoretical framework relating smooth labour force integration to the expected training costs of market entrants, irrespective of more specific institutional, economic or other national circumstances. In sum, this also veritably reinstates education and the ways and means of training provision as a core instrument of policy considerations, notably at the lower levels of education where policy interventions are probably much more called for.

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